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10/735,673	12/16/2003	Daryl Gazzard	CING03-009-US	2828

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Paul, Hastings, Janofsky & Walker LLP  
875 - 15th Street, N.W.  
Washington, DC 20005

EXAMINER
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HAILE, AWET A

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2616

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/735,673	Applicant(s) GAZZARD, DARYL	
	Examiner Awet A. Haile	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>05/06/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## ***DETAILED ACTION***

### ***Claim Objection***

1. **Claims 18-21** are objected to under 37 CFR 1.75 because of the following informalities

**Regarding claim 18**, line 7 it is suggested to applicant to change the

“transmitting/receiving packet signals to/from” to – transmitting or receiving packet signals to or from – similar problem exist in claim 19, lines 2 and 3.

**Claims 20 and 21** are objected to because they depend on an objected claim appropriate correction is required.

### ***Claim Rejections – 35 USC§ 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. **Claims 1 and 3-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Digital cellular telecommunication system (Phase 2+); Universal Mobile telecommunication System (UMTS; General packet Radio Service (GPRS) service description; Stage 2 (3GPP TS 23.060 version 3.15.0 release 1999) (ETSI TS 123 060 V3.15.0 (2003-06)(GSM standard) in view of Salin et al (US 6370390 B1).

**Regarding claim 1**, the GSM standard disclosed a method for coordinating operation modes of a GPRS network in which a mobile subscriber is registered for communications services, comprising: transmitting a network message to the mobile subscriber via a primary network operation mode (see section 6.3.3.1 (page 42). “ when the Gs interface is present, all MSC- originated paging of GPRS-attached MSs shall go via the SGSN’); if a failure condition occurs in the primary network operation mode, automatically switching the operation mode of the GPRS network to a secondary network operation mode (see section 6.3.3.1 (page 42). “ When the Gs interface is not present, all MSC- Originated paging of GPRS- attached MSs shall go via the A interface” hence secondary network operation mode)

However, the GSM standard fail to teach if the primary network operation mode is recovered, switching the operation mode of the network back to the primary network operation mode.

Salin et al from the same field of endeavor teach if the primary network operation mode is recovered, switching the operation mode of the network back to the primary network operation mode (column 18, lines 26 –31, sending a resume message from the MSC/VLR to SGSN changes the paging path)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the method of switching back to the primary mode when it's available as taught by Salin et al into the method disclosed in the GSM standard by adding the method of sending a message from the MSC/VLR to SGSN to resume the message transfer. The motivation for doing this is for enhanced coordination of network operation modes.

**Regarding claim 3**, the GSM standard teaches the primary network operation mode is a first network operation mode (NOM1) of the GPRS network (see section 6.3.3.1 or page 42, "When Gs interface is present paging co-ordination shall be made by SGSN....The network operates in mode I")

**Regarding claim 4**, the GSM standard teaches that the paging network message is transmitted from a mobile switching center (MSC) to a base station controller (BSC) through a Serving GPRS Support Node (SGSN), and then to the mobile subscriber (See

section 6.3.3.1 “ or page 42, “when Gs interface is present, all MSC-originated paging of GPRS- attached MSs shall go via the SGSN”)

**Regarding claims 5 –7**, the GSM standard teaches the secondary network operation mode is a second network operation mode (NOM2) of the GPRS network as recited in claim 5, switching the operation mode of the network to a third-preferred network operation mode when the secondary operation mode is failed as recited in claim 6, the third-preferred operation mode is a third network operation mode (NOM 3) of the GPRS network as recited in claim 7. (See section 6.3.3.1 or page 42, “ when the GS interface is not present all MSC-originated paging of GPRS-attached MSs shall go via the A interface... The network shall then be either operation mode II or III).

5. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over the GSM standard and Salin et al as applied to claim 1 above, and further in view of Josse et al (2020006125 A1)

**Regarding claim 2**, the GSM standard and Salin et al disclosed all the subject matter with the exception of storing a registered preferred list of network operation modes selected by the mobile subscriber.

Josse et al from the same field of endeavor teaches, storing a registered preferred list of network operation modes selected by the mobile subscriber (see Table IV and paragraph

99 “ Note: the subscriber lists the preferred network operation modes by adding a priority).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the method of storing the preferred list of network operation modes selected by the mobile subscriber as taught by Salin et al into the GSM standards MS. The motivation for doing this is to enable the mobile subscriber to choose based on the cost of the operation modes.

6. **Claims 8-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over the GSM standard in view of Josse et al

**Regarding claim 8**, the GSM standards teaches that a method for coordinating operation modes of a GPRS network in which a mobile subscriber subscribes for communications service, comprising: transmitting a network message to a mobile subscriber, via one of a first operation routing and a second routing, wherein in the first routing, the network message is sent via a first interface and a second interface (see figure 2, page 21 and page 42 section 6.3.3.1 where the MS paging go via SGSN which includes the Gs and Gb interfaces ), and in the second routing, the paging network message is sent via a third interface( see figure 2, the A interface) if the first routing is unavailable for transmitting the network message due to a failure in one or both of the first interface and the second interface, transmitting the network message to the mobile subscriber via the second

routing; ( see page 42 , If the Gs interface is not available paging message sent via interface A)

However, the GSM standard fail to teach that the network message is sent based on a preference of the mobile subscriber; after the first routing is recovered, transmitting further network messages to the mobile subscriber via the first routing.

Josse et al teaches the network message is sent based on a preference of the mobile subscriber (see paragraph 99, Note the subscriber will be able to set a priorities on the circuit switching and the packet switching path, hence user preference)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the method of sending a message based on user preference as taught by Josse et al into the GSM standard, to allow the mobile subscriber choose either the packet or circuit switched network, for receiving or sending message, based on the cost associated with the service.

**Regarding claim 9**, the GSM standard teaches, in the first routing, the network message is sent via one of circuit-switched and packet-switched channels (see fig 2, page 21 and page 42 (when Gs interface is available the paging go from the MSC via SGSN and then to the BSC), and in the second routing, the network message sent via the circuit-switched



channels (when Gs interface is not available the paging go directly from MSC to BSC hence circuit switched channel).

**Regarding claim 10**, the GSM standard teaches that, the first interface is between a mobile switching center (MSC) and a Serving GPRS Support Node (SGSN) (interface Gs), the second interface is between the SGSN and a base station controller (BSC) (interface Gb)(see fig 2 and page 42), and the third interface (interface A) is between the MSC and the BSC (see fig2, and page2).

**Regarding claim 11 and 12**, the GSM standard teaches that, resetting a BTS Virtual Circuit Identifier (BVCI) when the first routing is available as recited in claim 11. Wherein the reset of the BVCI is initiated by either a SGSN when the first interface is available or by a BSC when the mobile subscriber wishes to transmit signals via the first routing (see section 12.6.3.2, page 147 “BVCI contexts in BSS in SGSN).

7. **Claims 13 -16** are rejected under 35 U.S.C. 103(a) as being unpatentable over the GSM standard and Josse et al as applied to claim 8 and 10 above, and further in view of Aaltonen (US 2002/0110116 A1).

**Regarding claim 13-16**, the GSM standard teaches, sending a BTS (base transceiver station) virtual circuit identity (BVCI)-block signal from the SGSN to the BSC; and the

BSC responding to the BVCI-block signal by sending a BVCI-block-acknowledge signal (see section 12.6.3.2 "BVCI contexts in BSS in SGSN") switching the operation mode of the network to the second routing (see section 6.3.3.1, page 42) as recited in claim 15.

However, the GSM standard and Josse et al fail to teach that, in the first routing, when the first interface is unavailable, the method comprises: transmitting a failure indication message from the SGSN to the BSC indicating that the first interface is unavailable; receiving a failure acknowledge message from the BSC and switching the operation mode of the network to the second routing; and the MSC transmitting the network message to the mobile subscriber via the third interface as recited in claim 13 and 16.

When the first interface is recovered, the SGSN sending a recovered message to the BSC indicating that the first interface is recovered; the BSC responding to the recovered message and switching the operation mode to the first routing; and the MSC transmitting the further network messages to the mobile subscriber via the first and second interfaces as recited in claim 14. Transmitting a BVCI-unblock message indicating that the first interface is available; and responding to the BVCI-unblock message, transmitting a BVCI-block signal to block the first interface to ensure that the network message is sent to the mobile subscriber via the third interface as recited in claim 17 When the mobile subscriber wishes to use the first routing process, transmitting a first-routing request message from the mobile subscriber to request for a connection to the first routing process; responding to the request message and transmitting an unblocked message to

unblock the first-interface; and transmitting/receiving packet signals to/from the mobile subscriber via the first routing process as recited in claim 18.

Aaltonen from the same field of endeavor teaches that, in the first routing, when the first interface is unavailable, the method comprises: transmitting a failure indication message from the SGSN to the BSC indicating that the first interface is unavailable (see paragraph 18 lines 1-5, Note: failure of transmission can be because of Gs or Gb interface); receiving a failure acknowledge message from the BSC and switching the operation mode of the network to the second routing (see paragraph 19, 1-6); and the MSC transmitting the network message to the mobile subscriber via the third interface (see paragraph 18, lines 9 –14) as recited in claim 13 and 16. When the first interface is recovered, the SGSN sending a recovered message to the BSC indicating that the first interface is recovered; the BSC responding to the recovered message and switching the operation mode to the first routing; and the MSC transmitting the further network messages to the mobile subscriber via the first and second interfaces (see paragraph 20, lines 12, the acknowledgment from the SGSN imply recovery of the interface) as recited in claim 14. Transmitting a BVCI-unblock message indicating that the first interface is available; and responding to the BVCI-unblock message transmitting a BVCI-block signal to block the first interface to ensure that the network message is sent to the mobile subscriber via the third interface (see paragraph 19 lines 1-3, by sending a “resumption request” inherently suspends the MSC/ VLR and connects to the SGSN for packet switching), as recited in claim 17. When the mobile subscriber wishes to use the first

routing process, transmitting a first-routing request message from the mobile subscriber to request for a connection to the first routing process; responding to the request message and transmitting a unblocked message to unblock the first-interface( see paragraph 20 , lines 1-4 “ resumption request”) ; and transmitting/receiving packet signals to/from the mobile subscriber via the first routing process( see paragraph 20, lines 8 – 9) as recited in claim18.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the method of transmitting a failure indication message from the SGSN to the BSC when error occurs, switching the operation mode to the second routing, sending a recovered message from the SGSN to the BSC, transmitting a block message from the BSC to the SGSN, sending the message using the third interface (interface A), transmitting unblock message from the BSC to SGSN transmitting or receiving packet signals from the moil subscriber via the first routing as taught by Aaltonen in to the modified GSM standard BSC. The motivation for doing this is to detect interface failure between the SGSN and MSC, which helps to improve network mode coordination.

8. **Claims 19- 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over the GSM standard in view of Aaltonen

**Regarding claim 19 -21**, the GSM standard discloses a system for coordinating operation modes of a GPRS network, the system comprising: a mobile station controller (MSC) for transmitting/receiving calls to/from the mobile subscriber; a base station control center (BSC) for managing the calls transmitted/received o/from the mobile subscriber; a Serving GPRS support node (SGSN) located between the BSC and the MSC (see figure 2, page 21) the operation modes of the GPRS network are automatically switched according to the registered preferred list of operation modes based on an interface status between the MSC and the SGSN ( see section 6.3.3.1 Note; the network operation mode is changed based on the availability of the Gs interface)

However, the GSM standard fail to teach that a database for storing a preferred list of network operation modes of the GPRS network that the mobile subscriber registers for as recited in claim 19. The preferred list of network operation modes stored in the database that is accessible by the BSC as recited in claim 20. The SGSN reports a change of the status of the interface between the SGSN and the MSC to the BSC so that the BSC decides what network operation mode to use based on the preferred list stored in the database as recited in claim 21.

Aaltonen from the same field of endeavor teaches a database for storing a preferred list of network operation modes of the GPRS network that the mobile subscriber registers (see paragraph 21 lines, 2-5). The preferred list of network operation modes stored in the database that is accessible by the BSC (see figure 2). The SGSN reports a change of the

status of the interface between the SGSN and the MSC to the BSC (see paragraph 20, Resume Ack) so that the BSC decides what network operation mode to use based on the preferred list stored in the database (see paragraph 22 and 23).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the method of using a database for storing a preferred list of network modes that are accessible by the BSC and sending a message from the SGSN to the BSC on the interface status as taught by Aaltonen into the GSM standard. To allow the mobile subscribers choose either the packet or circuit switched network, for receiving or sending message, based on the cost associated with the service.

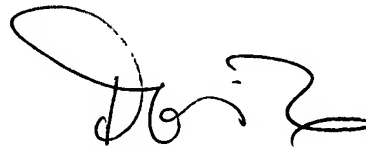
### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bleckert et al (US 20020061756 A1), Mizell et al (US 7006478 B1), Maguire et al (US 6996092 B1), Hossain et al (US 6920116 B1), Lundin (US 20040037269 A1), Carisson et al (US 2002/0085537 A1), Vanttinen et al (US 7126940 B2) and Willhelmsson et al (US 6898425 B1) are recited to show paging coordination in telecommunication network.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Awet Haile whose telephone number is (571) 270-3114. The examiner can normally be reached on Monday - Thursday 10:00 AM – 5:00 PM EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on (571) 272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, Call 800 –786-9199(IN USA OR CANADA) or 571-272-1000.



DORIS H. TO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600